

In the Claims:

Please amend claims 23 and 24. Please add new claim 33-46. The claims are as follows:

1-19 (Cancelled)

20. (Original) A bipolar transistor comprising;

a collector;

a base; and

a polysilicon emitter containing a dopant species and a polysilicon grain size modulating species.

21. (Original) The bipolar transistor of claim 20, wherein said dopant species is arsenic.

22. (Original) The bipolar transistor of claim 20, wherein said polysilicon grain size modulating species is selected from the group consisting of antimony and carbon.

23. (Currently Amended) The bipolar transistor of claim 20, wherein the base current of said bipolar transistor is higher or lower than the base current of an identical bipolar transistor fabricated without said polysilicon grain size modulating ~~ion implantation step~~ species.

24. (Currently Amended) The bipolar transistor of claim 20, wherein the resistance of said emitter of said bipolar transistor is higher or lower than the emitter resistance of an identical bipolar transistor fabricated without said polysilicon grain size modulating species ~~ion implantation step~~.

25. (Original) The bipolar transistor of claim 20, wherein said dopant species is arsenic and is implanted into said polysilicon emitter at a dose of $1E15$ to $2.3E16$ atm/cm^2 and at an energy of about 40 to 70 Kev, and wherein said polysilicon grain size modulating species is antimony and is implanted into said polysilicon emitter at a dose of $1E15$ to $1.5E16$ atm/cm^2 and at an energy of 30 to 70 Kev.

26. (Original) The bipolar transistor of claim 20, wherein said dopant species is arsenic and is implanted into said polysilicon emitter at a dose of $1E15$ to $2.3E16$ atm/cm^2 and at an energy of about 40 to 70 Kev, and wherein said polysilicon grain size modulating species is carbon and is implanted into said polysilicon emitter at a dose of $1E14$ to $1E16$ atm/cm^2 and at an energy of 15 to 35 Kev.

27. (Withdrawn) A device comprising;

a polysilicon layer forming at least a portion of a structure of said device; and
said polysilicon layer containing a dopant species and a polysilicon grain size modulating species.

28. (Withdrawn) The device of claim 27, wherein said dopant species is arsenic.

29. (Withdrawn) The device of claim 27, wherein said polysilicon grain size modulating species is selected from the group consisting of antimony and carbon.

30. (Withdrawn) The device of claim 27, wherein said dopant species is arsenic and is implanted into said polysilicon layer at a dose of $1E15$ to $2.3E16$ atm/cm^2 and at an energy of about 40 to 70 Kev, and wherein said polysilicon grain size modulating species is antimony and is implanted into said polysilicon layer at a dose of $1E15$ to $1.5E16$ atm/cm^2 and at an energy of 30 to 70 Kev.

31. (Withdrawn) The device of claim 27, wherein the concentration of dopant is higher at a predetermined distance from a bottom surface of said polysilicon layer than the concentration of dopant at the same pre-determined distance from a bottom of an identical polysilicon layer of an identical device fabricated without said polysilicon grain size modulating ion implantation step.

32. (Withdrawn) The device of claim 27, wherein said portion of a structure of said device is selected from the group consisting of polysilicon gates of field effect transistors, polysilicon gates of bipolar transistors, polysilicon lines of thin film resistors and polysilicon lines of damascened thin film resistors.

33. (New) A bipolar transistor, comprising;

- a single-crystal silicon collector region;
- a single-crystal silicon base region in said collector region;
- a single-crystal silicon emitter region formed in said base region; and
- a poly-crystalline silicon emitter layer in direct contact with a top surface of said emitter region, said emitter layer containing a dopant species and a carbon species.

34. (New) The bipolar transistor of claim 33, wherein said dopant species is arsenic.

35. (New) The bipolar transistor of claim 33, wherein the base current of said bipolar transistor is lower than the base current of an identical bipolar transistor fabricated without said carbon species.

36. (New) The bipolar transistor of claim 33, wherein the resistance of said emitter of said bipolar transistor is higher than the emitter resistance of an identical bipolar transistor fabricated without said carbon species.

37. (New) The bipolar transistor of claim 33, wherein a silicon grain size of said polysilicon emitter layer of said bipolar transistor is less than a silicon grain size of a polysilicon emitter layer an identical bipolar transistor fabricated without said carbon species.

38. (New) The bipolar transistor of claim 33, wherein said dopant species is arsenic and is implanted into said polysilicon emitter at a dose of $1E15$ to $2.3E16$ atm/cm^2 and at an energy of about 40 to 70 Kev, and wherein said carbon species is implanted into said polysilicon emitter layer at a dose of $1E14$ to $1E16$ atm/cm^2 and at an energy of 15 to 35 Kev.

39. (New) The bipolar transistor of claim 33, wherein said base region includes germanium.

40. (New) A bipolar transistor, comprising;

a single-crystal silicon collector region;

a single-crystal silicon base region in said collector region;

a single-crystal silicon emitter region formed in said base region; and
a poly-crystalline silicon emitter layer in direct contact with a top surface of said emitter region, said emitter layer containing a dopant species and an antimony species.

41. (New) The bipolar transistor of claim 40, wherein said dopant species is arsenic.

42. (New) The bipolar transistor of claim 40, wherein the base current of said bipolar transistor is higher than the base current of an identical bipolar transistor fabricated without said antimony species.

43. (New) The bipolar transistor of claim 40, wherein the resistance of said emitter of said bipolar transistor is lower than the emitter resistance of an identical bipolar transistor fabricated without said antimony species.

44. (New) The bipolar transistor of claim 40, wherein a silicon grain size of said polysilicon emitter layer of said bipolar transistor is greater than a silicon grain size of a polysilicon emitter layer an identical bipolar transistor fabricated without said antimony species.

45. (New) The bipolar transistor of claim 40, wherein said dopant species is arsenic and is implanted into said polysilicon emitter at a dose of $1E15$ to $2.3E16$ atm/cm^2 and at an energy of about 40 to 70 Kev, and wherein said antimony species is implanted into said polysilicon emitter layer at a dose of $1E15$ to $1.5E16$ atm/cm^2 and at an energy of 30 to 70 Kev.

46. (New) The bipolar transistor of claim 40, wherein said base region includes germanium.